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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ronald E Greigg Greigg & Greigg 1423 Powhatan Street Suite One Alexandria, VA 22314			EXAMINER SKRIPNIKOV, ALEX	
			ART UNIT 2416	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/500,657

Applicant(s)

BERWANGER ET AL.

Examiner

Alex Skripnikov

Art Unit

2416

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15 and 17-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 12, 2009 has been entered.

Response to Arguments

2. Applicant's arguments filed May 18, 2009 have been fully considered but they are not persuasive. Examiner respectfully disagrees Applicants arguments on pages 9-12: "message objects" are not the same as messages transmitted across the bus lines", "message objects" and the messages to be transmitted across the bus lines are two completely different things and have nothing to do with one another", because teachings of references Applicants relied upon in support for interpretation "message objects" are insufficient to redefine meaning of "message objects" in the reference to Weigl et al. Weigl et al. discloses "the message object, i.e. message, corresponds to the message object of the bus." (Weigl et al.; column 6, lines 28-29); "One message object (of a timing window) can be sent repeatedly within a transmission group" (Weigl et al.; column 6, lines 24-26) and "exclusive message objects (periodic messages):"

Exclusive message objects are sent when the application watchdog is set..." (Weigl et al.; column 6, lines 56-58). Therefore, One skilled in art would not interpret "message objects" as buffer, or memory, as argued be Applicants, because buffer, or memory cannot be sent across the bus. Weigl et al. (column 6, lines 19-41) discloses the **message object, i.e., the message**, corresponds to the message object of the bus, particularly in CAN, and includes the identifier, as well as the data itself. In TTCAN, **the message object is supplemented by at least one, preferably by all three, of the following entries in the transmission matrix: timing window, base mark, rate of repetition**. The timing window is the position in the base cycle. The base mark indicates in which base cycle overall cycle the message is sent first. The rate of repetition defines after how many base cycles this transmission is repeated. Therefore, timing window, base mark, rate of repetition are all cycle data or data about the cycle. Stoneking et al. discloses message arbitration based on the identifier, where additional fields are integrated with identifier. Therefore it would be obvious to perform message arbitration based on timing window, base mark, and/or rate of repetition in the identifier.

Claim Objections

3. Claims **17-19** objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claims, or amend the claims to place the claims in proper dependent form, or rewrite the claims in independent form. **Claims 14 and 15 includes**

all limitations of claims 17 and 18 respectively. Claim 19 depends on the cancelled claim 16.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims **24-31** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 recites the limitation "the cycle data" in line 1. Claim 25 recites the limitation "the cycle data" in lines 3, 5, 6 and 7. Claim 26 recites the limitation "the cycle data" in lines 3, 5, 6, and 7. Claim 27 recites the limitation "the cycle data" in line 5. Claim 28 recites the limitation "the cycle data" in line 5. Claim 29 recites the limitation "the cycle data" in line 5. Claim 30 recites the limitation "the cycle data" in line 5. Claim 31 recites the limitation "the cycle data" in line 5. There is insufficient antecedent basis for these limitations in the claims.
6. Claims **24, 25, 27, 29 and 30** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether the claim limitation "the cycle data" (claim 24, line 1), (claim 25, lines 3, 5, 6 and 7), (claim 27, line 5), (claim 29, line 5) and (claim 30, line 5) referred to "data pertaining to the current cycle" (claim 22), or "data about the cycle" (claim 20, lines 7-8), or "additional cycle data" (claim 20, line 11).

7. Claims **25, 26, 30 and 31** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear how "the identifiers and the cycle data of the messages are compared with predeterminable values", in the embodiment where system uses "a separate cycle counter" ("additional cycle data", as claimed, is optional functionality and does not exist together with "a separate cycle counter" (claim 20, lines 11-14)).

8. Claims **27-31** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 27 recites the limitation "the current cycle data" in lines 2 and 4. Claim 28 recites the limitation "the current cycle data" in lines 2 and 4. Claim 29 recites the limitation "the current cycle data" in lines 2 and 4. Claim 30 recites the limitation "the current cycle data" in lines 2 and 4. Claim 31 recites the limitation "the current cycle data" in lines 2 and 4. There is insufficient antecedent basis for these limitations in the claims.

9. Claims **26, 28 and 31** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether the claim limitation "the cycle data" (claim 26, lines 3, 5, 6, and 7), (claim 28, line 5), and (claim 31, line 5) referred to "data pertaining to the current cycle" (claim 23), or "data about the cycle" (claim 20, lines 7-8), or "additional cycle data" (claim 20, line 11).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims **13-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Weigl et al. US 6,842,808, as a Pre-Grant Publication US 2001/0018720**, published on August 30, 2001, of record, in view of **Stoneking et al. US 6,606,670**, of record.

As to claim 13:

Weigl et al. discloses a cycle-based communication system for transmitting useful data between users of the system, including a data bus and the users connected to it (Weigl et al.; column 1, lines 44-48), in which the data transmission is effected within cyclically repeating timeframes (first or base cycles; Weigl et al.; column 2, lines 24-35, line 56-57; Fig 4, BZOa-BZ7a) with at least two timeslots (timing windows) each (Weigl et al.; column 3, lines 20-22; illustrated as timing window on Fig. 2), and each timeslot is intended for transmitting one message (one periodic message Weigl et al.; column 3, lines 22-24), one message contains at least some of the useful data (data; Weigl et al.; column 6, lines 28-30), and each message is assigned an identifier (identifier; Weigl et al.; column 6, lines 28-30), characterized in that the identifier is stored in each message as part of the message (message includes identifier; Weigl et al.; column 6, lines 28-30); that each message additionally includes (supplemented; Weigl et al.; column 6, lines 28-33) data about the cycle (rate of repetition; Weigl et al.;

column 6, lines 28-40, defines after how many base cycles this transmission is repeated); that the timeslots have a fixed length (specifiable length of timing windows; Weigl et al.; column 5, lines 6-9; timing windows are also illustrated fixed on Fig. 2); and that at least one of the timeslots of one timeframe can be used, in various cycles, for offset transmission of different messages that are not intended for transmission in every cycle (Weigl et al.; column 6, lines 19-27; illustrated on Fig. 4 in timing window ZF5a, different messages (B,C) are transmitted offset (not transmitted in every cycle)).

Furthermore, Weigl et al. discloses data about the cycle (rate of repetition; Weigl et al.; column 6, lines 28-40) has additional cycle data (after how many base cycles this transmission is repeated; Weigl et al.; column 6, lines 28-40); each message is additionally assigned time data (message supplemented by timing window; Weigl et al.; column 6, lines 28-37) that pertain to a timeslot (specific timing in the base cycle; Weigl et al.; column 6, lines 28-37).

Furthermore, Weigl et al. discloses to arbitrate messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-column 7, line 20; Fig. 4)

Weigl et al. fails to teach data about the cycle integrated with the identifier of each message; message can be learned from the identifier.

However, Stoneking et al. discloses that any convenient fields and message format may be used depending on the particular implementation contemplated (Stoneking et al.; column 5, lines 6-8). Stoneking et al. discloses that message identifier used together with other field (RTR bit) for the purpose of message arbitration, message can be learned from the identifier (numerical value for a function). (Stoneking et al.;

column 5, lines 15-28; Arbitration Field (identifier associated with other fields) (154) is illustrated on Fig. 2A, 2B).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to access identifier field and supplemented rate of repetition field described by Weigl et al. in a combination, as taught by Stoneking et al. in order to conveniently arbitrate messages (Stoneking et al.; column 5, lines 15-28).

As to claim 20:

A method for transmitting useful data in a cycle-based communication system between users of the system via a data bus, to which the users are connected (Weigl et al.; column 1, lines 44-48), in which the useful data are transmitted within cyclically repeating timeframes (first or base cycles; Weigl et al.; column 2, lines 24-35, line 56-57; Fig 4, BZOa-BZ7a) each with at least two timeslots (timing windows; Weigl et al.; column 3, lines 20-22; illustrated as timing window on Fig. 2), and in each timeslot one message (one periodic message; Weigl et al.; column 3, lines 22-24) is transmitted, at least some of the useful data (data; Weigl et al.; column 6, lines 28-30) are stored in memory in a message, and each message is assigned an identifier (identifier; Weigl et al.; column 6, lines 28-30), wherein the messages are transmitted in timeslots of fixed length (specifiable length of timing windows; Weigl et al.; column 5, lines 6-9; timing windows are also illustrated fixed on Fig. 2); that the identifier is stored in memory in the message (message includes identifier; Weigl et al.; column 6, lines 28-30) as part of the message; that in each message, data about the cycle (rate of repetition; Weigl et al.; column 6, lines 28-40, defines after how many base cycles this transmission is

repeated) are stored (supplemented; Weigl et al.; column 6, lines 28-33) in memory; that in at least one of the timeslots of a timeframe, different messages are transmitted offset from one another in various cycles, and in the at least one timeslot, those messages that are not intended for transmission in every cycle are transmitted offset from one another (Weigl et al.; column 6, lines 19-27; illustrated on Fig. 4 in timing window ZF5a, different messages (B,C) are transmitted offset (not transmitted in every cycle)).

Furthermore, Weigl et al. discloses additional cycle data (after how many base cycles this transmission is repeated; Weigl et al.; column 6, lines 28-40); each message is additionally assigned time data (message supplemented by timing window; Weigl et al.; column 6, lines 28-37) that pertain to a timeslot (specific timing in the base cycle; Weigl et al.; column 6, lines 28-37).

Furthermore, Weigl et al. discloses to arbitrate messages based on the transmission matrix entries (Weigl et al.; column 5, line 45-column 7, line 20; Fig. 4)

Weigl et al. fails to teach additional cycle data integrated with the identifier of each message; message can be learned from the identifier.

However, Stoneking et al. discloses that any convenient fields and message format may be used depending on the particular implementation contemplated (Stoneking et al.; column 5, lines 6-8). Stoneking et al. discloses that message identifier used together with other field (RTR bit) for the purpose of message arbitration, message can be learned from the identifier (numerical value for a function). (Stoneking et al.;

column 5, lines 15-28; Arbitration Field (identifier associated with other fields) (154) is illustrated on Fig. 2A, 2B).

Therefore, It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to access identifier field and supplemented rate of repetition field described by Weigl et al. in a combination, as taught by Stoneking et al. in order to conveniently arbitrate messages (Stoneking et al.; column 5, lines 15-28).

As to claim 21:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claim 20 above.

Furthermore, Weigl et al. discloses that the users of the communication system are each allocated at least one predeterminable timeslot of the timeframes (component of transmission matrix) for data transmission. (Weigl et al.; column 6, lines 1-4; transmission groups also illustrated on Fig.4).

As to claims 14, 15, 17-19, 22, 23 and 24:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 13, 20 and 21 above.

Furthermore, Weigl et al. discloses that the message includes data about the cycle (rate of repetition (defines after how many cycles this (current) transmission is repeated)) (Weigl et al.; column 6, lines 28-42; therefore, data about the cycle pertain to the message and therefore pertain to the current cycle in which the message is sent and include an ordinal number of the cycle (after how many cycles transmission is repeated)).

As to claims 25-31:

Weigl et al. and Stoneking et al. disclose the claimed invention as to claims 22 and 23 above.

Furthermore, Weigl et al. discloses the current cycle data are monitored by the users (reference message received by all nodes and include number of instantaneous cycle Weigl et al.; column 4, lines 23-30); predeterminable value stored in a memory of the user for the cycle data (timing mark within the watchdog; Weigl et al.; column 4, lines 44-65); a message is sent by a user in a predeterminable timeslot only if the current cycle data match a predeterminable value, stored in a memory of the user, for the cycle data (message is transmitted when watchdog is actuated based on the time mark; Weigl et al.; column 4, lines 61-65).

Weigl et al. fails to teach that the messages (data traffic) are observed by the users of the communication system; that the identifiers and the cycle data of the messages are compared with predeterminable values, stored in memories of the observing users, for the identifier and the cycle data, and at least the useful data of a transmitted message are received by the user only if the identifier and the cycle data of the message match the predeterminable values, stored in the memory of the user, for the identifier and the cycle data.

However, Stoneking et al. discloses that each message includes a message ID; In order to determine whether to process a received message, each node examines the message ID from the message; each node is configured to process messages whose message IDs meet predetermined criteria; these criteria may be, for example, that the

message ID is one in a defined set, is within a certain numeric range or outside of a certain numeric range; If the extracted message ID meets the predetermined criteria, then the receiving node processes the message (Stoneking et al. column 4, lines 50-58); if a particular node receives a message with a message ID that it is not configured to process, it will not process the message. If, however, a node receives a message with a message ID that it is configured to process, the node will process the message (Stoneking et al. column 7, lines 28-38); the device 400 (Stoneking et al.; Fig 5.) may include receive buffers, at least one acceptance mask and at least one filter; the mask defines a bit pattern associated with a message ID that either should be accepted or rejected; the mask bits are applied to filters which then perform the function of accepting or rejecting an incoming message-based on whether the message ID of the message meets a predetermined criteria defined by the mask (Stoneking et al.; column 10, lines 54-62); in a message-based network, messages are transmitted to all nodes in the network; each node must then determine whether to accept and process a message or ignore the message (Stoneking et al. column 1, lines 24-27) for the purpose of allowing coordinated control of many control nodes within the system (Stoneking et al. column 1, lines 29-31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to update method of exchange of data described by Weidl et al. such that to update nodes to process only those messages which are configured to process (meet predetermined criteria) and include an acceptance mask to the nodes described by Stoneking et al. in order to allow

coordinated control of many control nodes within the system (Stoneking et al. column 1, lines 29-31).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Skripnikov whose telephone number is 571-270-1958. The examiner can normally be reached on Monday - Friday 9:00 AM to 5 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang B. Yao can be reached on 571-272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 19, 2009

/Alex Skripnikov/
Examiner, Art Unit 2416

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2416